CLEAN VERSION OF AMENDED SPECIFICATION PARAGRAPHS

METHOD AND APPARATUS FOR DISSIPATING HEAT FROM AN ELECTRONIC DEVICE
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The paragraph beginning on page 5, line 4.

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The housing 202 is adapted to be closely fitted to a heat sink. The housing 202 has a first end 204 and a second end 206. The first end 204 is adapted to hold an air moving device 203. In one embodiment, the housing 202 attaches to a processor socket. In one embodiment, various cooling attachments can be attached to the first end 204 and the second end 206 of the housing 202 to provide a multitude of thermal solutions for high performance electronic devices.

The paragraph beginning on page 9, line 16.

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Figure 5A is a perspective view of an example embodiment of an apparatus for cooling an electronic device. In one embodiment, the apparatus 500 shown in Figure 5A comprises a housing 502, a fan 504, and an air duct 506. The housing 502 is adapted to be closely fitted to a heat sink. The housing 502 contains and guides air movement through the plurality of fins of a heat sink. The air moving device 504 is coupled to a first end of the housing 502. In one embodiment, the air moving device pulls air through the enclosure created by the housing and exhausts the air into a chassis of a computer system. The air duct 506 directs air external to the chassis to the housing 502. In one embodiment, the cool air intake is any opening to the exterior of the chassis. The arrows in Figure 5A indicate that air enters the apparatus 500 through the air duct 506 and exits the apparatus 500 through the fan 504. By pulling air from the exterior of the chassis through the enclosure created by the housing 502, unheated air passes over the electronic device and through the fins of the heat sink. In the embodiment, the air duct 506 and the housing 502 channel air through the fins of the housing in a manner that substantially reduces blowby.

The paragraph beginning on page 10, line 16.

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In an example embodiment, the air duct 526 may be metal or plastic. The air duct 526 may also be rigid or flexible. For example, in one embodiment the air duct 526 takes the form of a flexible plastic hose. In another embodiment, such a flexible hose is also expandable. For

example, the flexible hose is molded as an accordion-like plastic hose. The accordion-like hose has folds and bends to allow the hose to expand and contract as needed. The use of an expandable, flexible hose allows an air duct to be added to a cooling system without having to modify the existing computer system board layout. The expandable, flexible hose is merely routed around the existing computer system components.

The paragraph beginning on page 12, line 3.

An advantage of the configuration shown in Figures 6A and 6B is the existence of redundant fans. Redundant fans are particularly useful for redundant cooling in computer systems such as servers. In such systems, the first fan and the second fan both operate under normal operating conditions. However, if one of the fans fails, the other fan alone is adequate to cool the electronic device. Thus, in a redundant cooling situation, the dual fans provide twice the cooling capacity normally needed in case one of the fans fails.

The paragraph beginning on page 14, line 15.

In the example embodiment shown in Figure 8, the apparatus for cooling an electronic device 800 is assembled from two housings and various cooling attachments from the kit of parts shown in Figure 3. In another alternate embodiment, the apparatus shown in Figure 8 can be expanded to cool four processors by using four fans and a single duct entering in the middle of the configuration provided that the duct is large enough to generate enough air flow to adequately cool four processors.

The paragraph beginning on page 14, line 22.

Figure 9 is a perspective view of an alternate embodiment of an apparatus 900 with two processors in an in-line configuration. The apparatus 900 shown in Figure 9 comprises an air intake duct 902 coupled to a housing connector 904. The housing connector 904 couples a first housing 906 fitted over a first processor and a second housing 908 fitted over a second processor. A first housing air duct adapter 910 is coupled to the first housing 906. The first housing air duct adapter 910 is coupled to a first air exhaust duct 918. Likewise, the second housing air duct adapter 912 is coupled to a second air exhaust duct 914. The first air exhaust duct 918 and the

second air exhaust duct 914 are coupled to a chassis fan adapter 916. The chassis fan adapter 916 allows a system fan (not shown) to be used to exhaust heated air from the first housing 906 and the second housing 908 through the first air exhaust duct 918 and the second air exhaust duct 914 respectively.

The paragraph beginning on page 15, line 4.

Figure 10 is a perspective view of a dual processor configuration in which each processor housing is coupled to its own air duct for fresh air intake. In the example embodiment shown in Figure 10, two separate integrated circuit cooling systems are utilized. Each one of the integrated circuit cooling systems comprises a housing, a fan, and an air duct. In one embodiment, each one of the cooling systems are assembled as shown in Figure 5B.

The paragraph beginning on page 15, line 10.

An apparatus for dissipating heat from an electronic component according to embodiments of the present invention is not limited to the configurations shown above. Alternate embodiments are contemplated having the interchangeable cooling attachments and one or more housings arranged in a multitude of configurations. Such alternate embodiments include any means to generate air flow through a plurality of fins of a heat sink. Such alternate embodiments further include any means to contain and guide air movement through the plurality of fins of a heat sink such that the means substantially eliminates blowby. Such alternate embodiment may also include any means to direct air external to a chassis to the means to contain and guide air movement.

The paragraph beginning on page 15, line 20.

The example embodiments described above are not shown in a system chassis. However, a processor cooling system according to any of the example embodiments described above may be incorporated into a well known computerized system including a chassis, an integrated circuit board mounted in the chassis, and one or more processors coupled to the integrated circuit board.

The paragraph beginning on page 15, line 25.

Furthermore, a system integrator is likely to add a processor cooling system to such a well known computerized system using a kit of parts such as the kit of parts described by reference to Figure 3. In one embodiment, a system integrator performs a method of assembling a cooling system for an integrated circuit by closely coupling a housing to a heat sink for an integrated circuit and by coupling a fan to the housing. The system integrator may also couple one or more cooling attachments to the housing. One of the advantages of a method of assembling a cooling system using a kit of parts as described herein is that a cooling system can be assembled for use with a variety of industry standard integrated circuit boards from a single kit. The cooling system is assembled by selecting the appropriate cooling attachments based on the space available on the integrated circuit board and the particular thermal situation. The kit also allows the cooling system to be added after the chassis is assembled.